

Notice of Allowability

Application No.

10/657,808

Examiner

Amanda H. Merlino

Applicant(s)

RIZA ET AL.

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed 9/8/03 and terminal disclaimer filed 4/18/06.
2. ☒ The allowed claim(s) is/are 1, 4-8, 10-12, 14-20, 22-24 and 26-28.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

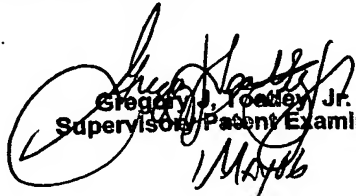
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 1/8/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


Gregory J. Tooley Jr.
Supervisor Patent Examiner

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with James H. Beusse on 4/17/06.

The application has been amended as follows:

- a) claims 2-3 have been cancelled;
- b) on line 6 of claim 1, "and" has been deleted;
- c) on line 8 of claim 1, -- ;

detecting a respective power of each portion of the incident optical beam directed to the photodetector at each position of the spatial modulator;

correlating respective pixels of the spatial light modulator at each position with the respective detected power of each portion of the incident optical beam;
and

processing correlated detected powers to determine an optical beam profile of the incident optical beam -- has been added after "modulator";

- d) claim 9 has been cancelled;
- e) on line 5 of claim 10, "and" has been deleted;
- f) on line 7 of claim 10, -- ;

and a processor configured to correlate a selection of light directed by the programmable light modulator with a respective power detected by the photodetector and process a plurality of correlated detected powers to determine an optical beam profile of the incident optical beam -- has been added after "modulator";

g) on line 5 of claim 11 "and" has been deleted;

h) on line 7 of claim 11, --;

correlating the respective pixels of the spatial light modulator with a respective detected power of each portion of the incident optical beam; and processing correlated detected powers to determine an optical beam profile of the incident optical beam -- has been added after "photodetector";

i) claim 13 has been canceled;

j) on line 2 of claim 20, "a normalized" has been replaced by -- the normalized --;

k) on line 6 of claim 18, "and" has been deleted;

l) on line 9 of claim 18, --;

correlating respective sets of pixels of the spatial light modulator with a respective normalized power corresponding to a respective portion of the optical beam directed to the photodetector;

and processing correlated normalized powers to determine an optical beam profile of the incident optical beam -- has been added after "photodetector";

m) claim 21 has been cancelled;

n) on line 6 of claim 22, "and" has been deleted;

o) on line 9 of claim 22, -- ;

correlating respective sets of pixels of the spatial light modulator with a respective normalized power corresponding to a respective portion of the optical beam directed to the photodetector;

and processing correlated normalized powers to determine an optical beam profile of the incident optical beam -- has been added after "photodetector";

o) on line 3 of claim 24, "a normalized" has been replaced by-- the normalized --;

p) claim 25 has been cancelled;

q) on line 6 of claim 26, "and" has been deleted;

r) on line 9 of claim 26, --;

correlating respective sets of pixels of the spatial light modulator with a respective normalized power corresponding to a respective portion of the optical beam directed to the first photodetector;

and processing correlated normalized powers to determine an optical beam profile of the incident optical beam -- has been added after "photodetector";

s) on line 2 of claim 28, "a normalized" has been replaced by -- normalized --;

t) claim 29 has been cancelled.

Terminal Disclaimer

The terminal disclaimer filed on 4/18/06 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 6,922,233 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Reasons for Allowance

Claims 1, 4-8, 10-12, 14-20, 22-24, and 26-28 allowed.

As to claims 1 and 4-8, the prior of record, taken alone or in combination, fails to disclose or render obvious a method of profiling an optical beam comprising the steps of sequentially moving the a spatial light modulator to at least one position in a first planar direction in a displacement increment less than a pixel width of the spatial light modulator, correlating respective pixels of a programmable spatial light modulator at each position with the respective detected power of each portion of the incident optical beam and processing correlated detected powers to determine an optical beam profile, in combination with the rest of the limitations of claim 1.

As to claims 10, the prior of record, taken alone or in combination, fails to disclose or render obvious an optical beam profiler comprising a programmable spatial light modulator for selectively directing light from an incident optical beam and a processor for processing a plurality of correlated detected powers to determine an optical beam profile, in combination with the rest of the limitations of claim 10.

As to claims 11-12 and 14-17, the prior of record, taken alone or in combination, fails to disclose or render obvious a method of profiling an optical beam comprising the steps of commanding a respective linear set of pixels of a spatial light modulator to direct respective portions of an incident optical beam to a photodetector, correlating the respective pixels of the spatial light modulator to direct respective detected power of each portion of the incident optical beam and processing correlated detected powers to

determine an optical beam profile, in combination with the rest of the limitations of claim 11.

As to claims 18-20, the prior of record, taken alone or in combination, fails to disclose or render obvious a method of profiling an optical beam comprising the steps of sequentially commanding respective sets of pixels in the spatial light modulator to direct respective portions of the optical beam to a photodetector, correlating the respective pixels of the spatial light modulator with a respective normalized power corresponding to a respective portion of the optical beam directed to the photodetector and processing correlated normalized powers to determine an optical beam profile, in combination with the rest of the limitations of claim 18.

As to claims 22-24, the prior of record, taken alone or in combination, fails to disclose or render obvious a method of profiling an optical beam comprising the steps of sequentially commanding respective sets of pixels in the spatial light modulator to direct respective portions of the optical beam to a first photodetector, simultaneously commanding respective remainders of the pixels, not included in each respective set, to direct respective complementary portions of the optical beam to a second photodetector, correlating the respective pixels of the spatial light modulator with a respective normalized power corresponding to a respective portion of the optical beam directed to the first photodetector and processing correlated normalized powers to determine an optical beam profile, in combination with the rest of the limitations of claim 22.

As to claims 26-28, the prior of record, taken alone or in combination, fails to disclose or render obvious a method of profiling an optical beam comprising the steps of sequentially commanding respective sets of pixels in the spatial light modulator to direct respective portions of the optical beam to a first photodetector, sequentially commanding the respective sets of pixels in the spatial light modulator to direct respective portions of the optical beam to a second photodetector, correlating the respective pixels of the spatial light modulator with a respective normalized power corresponding to a respective portion of the optical beam directed to the first photodetector and processing correlated normalized powers to determine an optical beam profile, in combination with the rest of the limitations of claim 26.

Any comments considered necessary by applicant must be submitted no later than payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

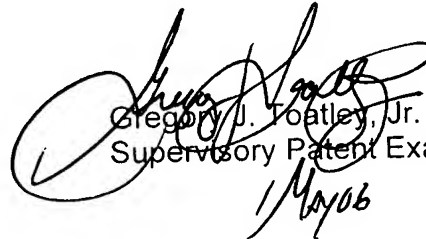
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda H Merlino whose telephone number is 571-272-2421. The examiner can normally be reached on Monday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J Toatley, Jr. can be reached on 571-272-2800 ext 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Amanda H Merlino *ahm*
Patent Examiner
Art Unit 2877
April 27, 2005


Gregory J. Toatley, Jr.
Supervisory Patent Examiner
May 06